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SEQUENCE LISTING

<110> The Scripps Research Institute
Zhang, Zhiwen
Alfonta, Lital
Schultz, Peter

<120> SELECTIVE INCORPORATION OF 5-HYDROXYTRYPTOPHAN INTO PROTEINS IN
MAMMALIAN CELLS

<130> 54A-001020PC

<160> 7

<170> PatentIn version 3.2

<210> 1

<211> 993

<212> DNA

<213> Artificial

<220>

<223> encodes Val144Pro mutant of Bacillus subtilis tryptophanyl-tRNA
synthetase

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synthetase

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 Gln Ser Glu Val Pro Ala His Ala Gln Ala Gly Trp Met Met Gln Cys
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 210 215 220
 Ser Glu Gly Ile Val Lys Phe Asp Lys Glu Asn Lys Pro Gly Val Ser
 225 230 235 240
 Asn Leu Leu Thr Ile Tyr Ser Ile Leu Gly Asn Thr Thr Ile Glu Glu
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Leu Glu Ala Lys Tyr Glu Gly Lys Gly Tyr Gly Glu Phe Lys Gly Asp
 260 265 270

Leu Ala Glu Val Val Val Asn Ala Leu Lys Pro Ile Gln Asp Arg Tyr
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Tyr Glu Leu Ile Glu Ser Glu Glu Leu Asp Arg Ile Leu Asp Glu Gly
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ttaaaccga tccaggaccg ctattacgag ctgatagaat ctgaagaatt agaccggatt      900
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<211> 330
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Leu Gly Asn Tyr Ile Gly Ala Met Lys Gln Phe Val Glu Leu Gln His
 20 25 30

Asp Tyr Asn Ser Tyr Phe Cys Ile Val Asp Gln His Ala Ile Thr Val
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Pro Gln Asp Arg Leu Glu Leu Arg Lys Asn Ile Arg Asn Leu Ala Ala
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Leu Tyr Leu Ala Val Gly Leu Asp Pro Glu Lys Ala Thr Leu Phe Ile
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Gln Ser Glu Val Pro Ala His Ala Gln Ala Gly Trp Met Met Gln Cys
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Val Ala Tyr Ile Gly Glu Leu Glu Arg Met Thr Gln Phe Lys Asp Lys
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Arg Phe Asn Lys Lys Tyr Asn Asp Ile Phe Thr Ile Pro Glu Val Lys
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Lys Met Ser Lys Ser Asp Pro Asn Gln Lys Ala Tyr Ile Thr Leu Leu
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Ser Glu Gly Ile Val Lys Phe Asp Lys Glu Asn Lys Pro Gly Val Ser
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Asn Leu Leu Thr Ile Tyr Ser Ile Leu Gly Asn Thr Thr Ile Glu Glu
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Leu Glu Ala Lys Tyr Glu Gly Lys Gly Tyr Gly Glu Phe Lys Gly Asp
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Leu Ala Glu Val Val Val Asn Ala Leu Lys Pro Ile Gln Asp Arg Tyr
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Ala Glu Arg Ala Asn Arg Thr Ala Asn Lys Met Leu Lys Lys Met Glu
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